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ICRS-M-10

21 August 1968

IMAGERY COLLECTION REQUIREMENTS SUBCOMMITTEE OF COMIREX

MINUTES OF MEETING

09:30 - 16:30 Monday, 5 August 1968

PRESIDING

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Chairman

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MEMBERS PRESENT

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SULTANTS PRI

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COLOR REQUIREMENTS

1. [ ] NRO, briefed on the circumstances and actions which resulted in the NRO directive [ ] He pointed out that the President's Scientific Advisory Committee (PSAC) had been briefed by the NRO on what they had accomplished with color photography in aircraft and satellite reconnaissance to date. He said that the PSAC was

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NRO review(s)  
completed.

T-O-P S-E-C-R-E-T

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25X1A highly interested in the possible adaptation of color photography to intelligence needs and that it was generally felt that no large scale color photography has been acquired over denied areas which would permit the exploitation community an opportunity to fully access the value of color as applied to technical intelligence. As a result the Land Panel recommended sufficient

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25X1A 3. [ ] stated that he was newly assigned to his present position. He expressed his appreciation for the opportunity to brief ICRS and to achieve a better understanding of the procedures within the framework of USIB for recommending/approval of special requirements which have an impact on the National Intelligence Requirements. The Chairman expressed his confidence that close cooperation between [ ] and the ICRS can be achieved.

25X1A 4. [ ] briefing charts are included as attachment number one.

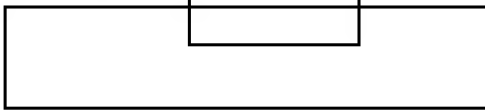
1104 COLOR BRIEFING

25X1A 5. [ ] CIA, briefed on the S0180 color film which will be flown on Mission 1104. Briefing consisted of:

- a. Background data on the KH-4B engineering test plan for the first five KH-4B launches.
- b. Problems of Satellite Color Testing.
- c. Purpose of the Test.
- d. Basics of the Test.
- e. Past Experience with S0180.
- f. Mission 1104 Film Load and Filters.

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g. Major Targets Suggested:

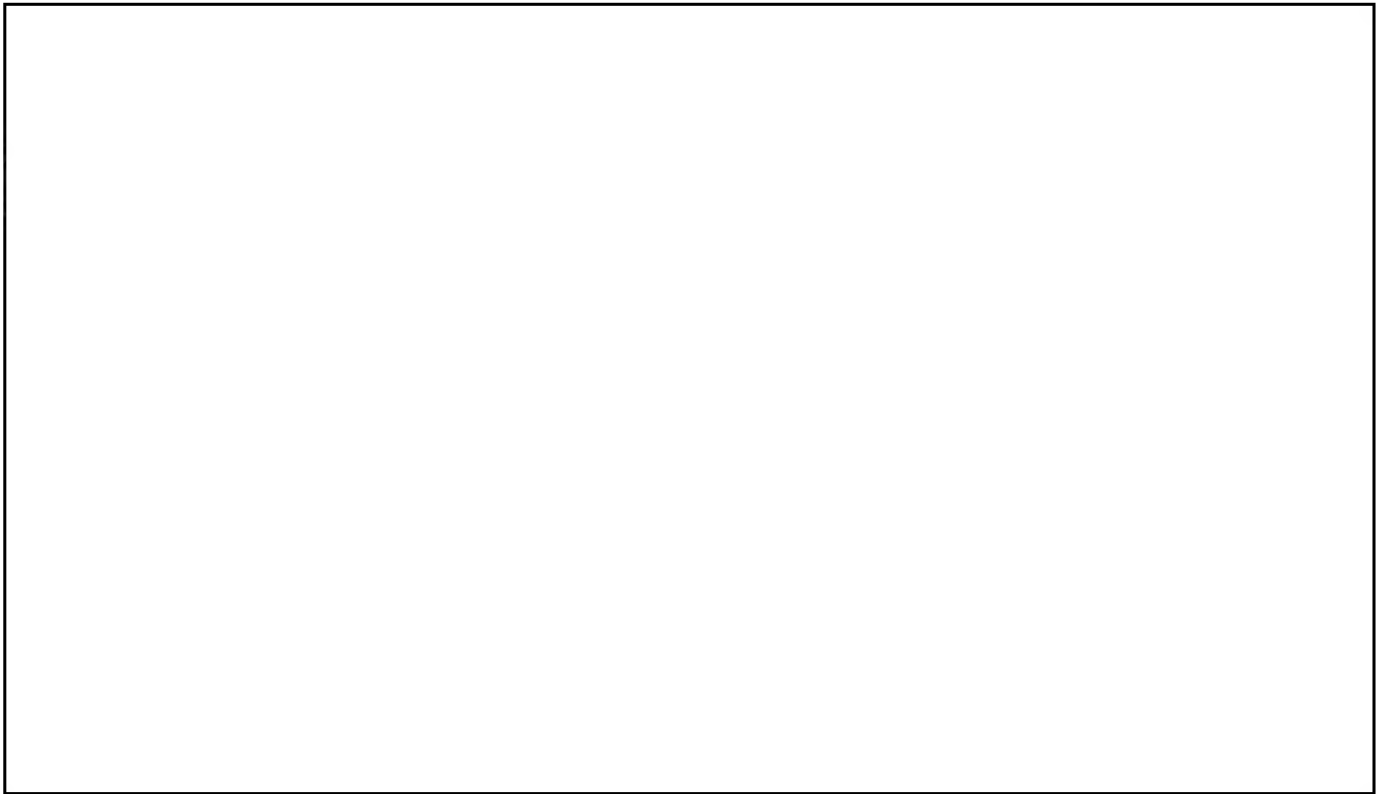
Agricultural  
Atomic Energy  
Buried Antennas

h. Processing and Exploitation.

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6. [redacted] presented numerous actual examples of S0180 photography which suggested possible advantages for certain types of intelligence information primarily in the agricultural and economic areas. A copy of [redacted] briefing, except for the photographic examples, is included as attachment number two.

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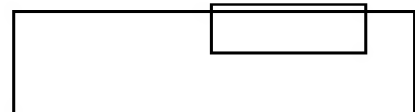


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25X1A [redacted]  
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MISSION RECAP

25X1A 16. [redacted] requested the ICRS Staff look at the possibility of providing the members a post mission recap that would include such things as targets programmed, reported by NPIC and not covered due to non-weather factors, i.e. inaccurate coordinates, etc. This request will be given consideration and addressed at a future meeting.

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17. [redacted]

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CZECHOSLOVAKIA

25X1A 18. [redacted] asked the members to closely monitor the Czechoslovakian situation and to advise him immediately if any development occurred which affected the Czechoslovakia requirements for 1104 [redacted]

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CUBA

25X1A 19. [redacted] reaffirmed the requirement for one foot resolution for coverage of the Santiago Army Camp Bunker despite the withdrawal of the [redacted] camera requirement. He questioned whether any specific ICRS action need be taken in this regard. [redacted] replied that, in his opinion, the ICRS should recommend a specific system for use if there was a high assurance that it could meet the requirement. In the interim he recommended the target be covered as often as possible with the regular GLASS LAMP missions. Mr. [redacted] said he would discuss the use of the Delta III system with COMIREX at the 8 August meeting. (Meeting subsequently cancelled.)

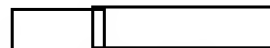
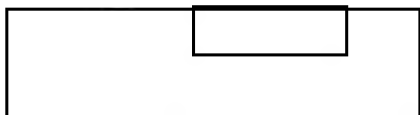
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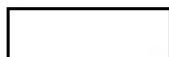
20. [redacted] requested the Cuban targets be included in the master target file so that DIA can do a better job in monitoring their status. The Chairman concurred in this request and staff action will be taken accordingly.

SATELLITE SCHEDULE

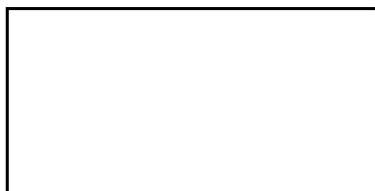
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21. In response to a request at the previous ICRS meeting for a six month schedule, [redacted] provided a long range launch schedule as follows:

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CORONA

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1104 - 7 Aug 1968  
1048 - 18 Sep 1968  
1105 - 30 Oct 1968  
1106 - 11 Dec 1968  
1049 - 29 Jan 1969

[redacted] advised the Committee that it is planned to have 500 feet of S0121 color film on Mission 1105 as well as a full load of UTB for one camera (24,000').

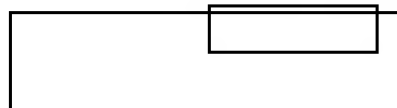
SOUTH CHINA/NORTH VIETNAM PRIORITY LIST

22. There were no changes to the South China/North Vietnam Priority List.

23. DIA submitted a weekly report of acceptable data base coverage of high priority targets in North Vietnam. There was no South China coverage during the period.

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25X1A [redacted] 25X1  
25X1 [redacted] ICRS-M-10 25X1A

25X1A 1104 MISSION PRIORITIES

24. The "J" Mission Priorities Paper for 1104 was discussed. Col. [redacted] requested that the East European satellite countries be placed in priority one due to the political situation in Czechoslovakia. The members concurred. He further requested that five of the ICBM complexes submitted by CIA for consideration as priority one be placed in priority two. He referred to the briefing he gave the members on the DIA analysis of new ICBM starts as reflected in the minutes, ICRS-M-7, 22 July 1968. [redacted] recognized that under normal circumstances the DIA position had merit, but, because of the possible negotiations between the US and the USSR on arms limitation, the requirement to obtain current coverage on all offensive systems is extremely important. No position was reached at the meeting. Subsequently, the paper was approved by COMIREX which included the five ICBM complexes as priority one (attachment number four).

25X1A 1104 BI-SPECTRAL

25. [redacted] recommended bi-spectral operations on three domestic targets, which was approved.

1104 COLOR

26. Recommendations for 1104 color photography were received from the Committee. It was agreed to postpone action on this subject until the 20 August ICRS meeting since this will still allow time to provide any special guidance to the NRO as well as provide the Committee the latest planning data on actual targets that will be accessible during the color portion of this mission. A combined list of the recommended targets will be provided the members prior to the August 20 meeting.

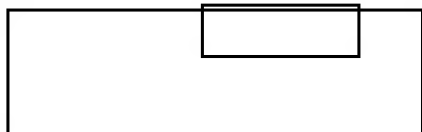
NPIC READOUT REQUIREMENTS

25X1A 27. Draft memoranda to the Chairman, EXSUBCOM defining ICRS read-out requirements for Mission [redacted] 1104 were approved.

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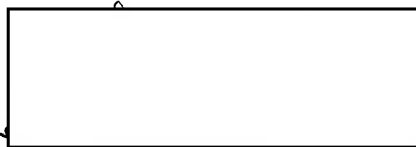
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TARGET UPDATE ACTIONS

28. Target update sheets consisting of 53 additions, 6 changes and 2 deletions were distributed to the members for review and comment. Any exceptions were requested by COB 8 August.



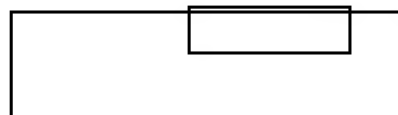
for

Chairman

Imagery Collection Requirements  
Subcommittee

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Attachments: a/s



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Attachment 1 to  
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# SIGNIFICANT AND ACTIONS ON COLOR

26 July 1966

Letter NRO Staff to COMIREX  
Proposed CORONA J-37 for October  
use SO 121

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10 November 1966

Memorandum NRO Staff to COMIREX  
"Analysis of Color Photography in  
the NRP"

Summary: We think we know how to  
use it.

We think we know how to  
process and dupe it.

We now look to the  
Intelligence Community  
to suggest

"Where, How and When"

TOP VERTICAL

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• Color Requirements/Color Acquisition are involved  
in a Chicken/Egg Situation

• Statement of Requirement

Target  
Problem

• Film — Target Correlation

Mission Planning

Roll Make-Up

Film Utilization Rate

• Exploitation

Feedback loop

• Our present and on-going systems are not designed  
to permit alternate film recordings or operator action.

TOP VERTICAL

	AERIAL INDEX	ITEK DATA		KODAK DATA	
		1000/1	1.6/1	100/1	1.7/1
KODAK SO 121	12 - 18	130	73	170	60
KODACHROME II	3.4	180	82	170	80
GFACHROME CT-135	2.1	180	65	—	—
SO 180 (I-R)	10	—	—	71	36
KODAK 3404 (W-2T)	1.85	—	—	635	185

TOP VERTICAL

Attachment 1 to  
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18 October 1963  
Mission 3754

U-2 "B" Configuration — Cuba  
Aerial Ektachrome Reversal  
PI Suitability "FAIR" Due to "Poor"  
Resolution.

3 February 1966  
Mission 0026 H

U-2 Delta Configuration — S.E. Asia  
SO 121 & 3404

TOP VERTICAL

Attachment 1 to  
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TOP VERTICAL

20 December 1967  
Mission 1102

CORONA Satellite — Domestic Test  
Bi-Color 3404 Wratten 25 (Red)  
SFO 5 (Green)

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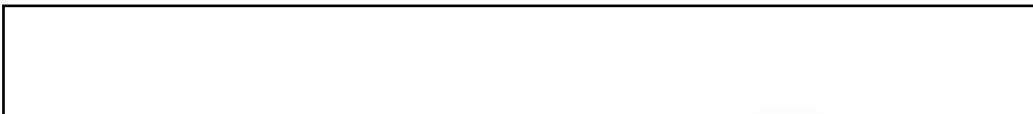
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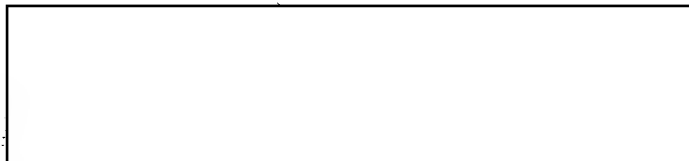


RESULTS:

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TOP VERTICAL

### CONCLUSION

No large scale color photography has been acquired over denied areas which would permit exploitation community an opportunity to assess value of color in technical intelligence

### RECOMMENDATION



TOP VERTICAL

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**MISSION 1104**  
**ENGINEERING**  
**EVALUATION**  
**PLAN**

**7 AUGUST 1968**

**OSP/DDSET**

# BACKGROUND

**Development of the KH-4B Engineering Test Plan (FEB-APR '67)  
With the Community**

**DNRO Approval of the Test Series (MAY '67)**

**DNRO Establishment of the KH-4B Photographic Experiment  
Evaluation Committee (FEB '68)**

Attachment 2 to  
ICRS-M-10

# PROBLEMS OF SATELLITE COLOR TESTING

**Lack of Specific Operational Targets for Evaluation**

**Lack of Concurrent Black & White and Color Materials**

Attachment 2 to  
ICRS-M-10

# PURPOSE OF TEST

To Evaluate the Use Of SO-180 ( IR Color Film )  
In The KH-4B System

# PURPOSE OF BRIEFING

To Coordinate Test Plan With Community

Attachment 2 to  
ICRS-M-10

# BASICS OF 1104 TEST

**800 Ft. Of SO-180 On End Of Fwd. Camera**

**First Attempt At Using SO-180 At Satellite Altitudes**

**Since This Is An End Of Mission Test , Need To Identify  
Operational Targets To Aid In Evaluation**

**Preliminary List of Objectives Has Been Generated**

Attachment 2 to  
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# PAST EXPERIENCE WITH SO-180

**Ekit Test Series (U-2)**

**System Testing At Simulated Altitude**

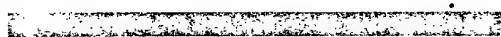
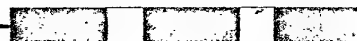
# HOW CD WORKS

## EKTACHROME IR

## TYPICAL COLOR



NATURAL COLORS



YELLOW FILTER

Recorded Silver Image

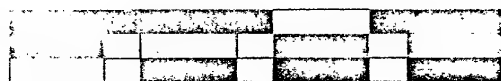


IR SENSITIVE  
GREEN SENSITIVE  
RED SENSITIVE

BLUE SENSITIVE  
GREEN SENSITIVE  
RED SENSITIVE

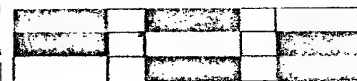


Recorded Dye Image

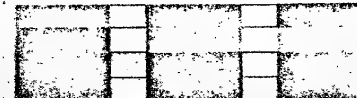


CYAN  
YELLOW  
MAGENTA

YELLOW  
MAGENTA  
CYAN



Resultant Colors



### NOTES:

- 1 - WRATTEN NO 12 ALWAYS USED WITH CD
- 2 - TYPICAL COLOR FILM INSENSITIVE TO IR

CONFIDENTIAL

VISUAL NO. \_\_\_\_\_  
SUBJECT \_\_\_\_\_

Attachment 2 to  
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PROPOSED

ENGINEERING

PLAN



Attachment 2 to  
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# 1104 SYSTEM LOADING

## FILM LOAD

## FILTERS

Fwd. Camera

15,200 Ft.

800 Ft.

Fwd. Camera

Primary-W/25

Alternate-G-15+0.9ND

Aft Camera

16,000 Ft. 3404

Aft Camera

Primary-W/21

Alternate-SF-05 (Green)

Film Loading Provides For Normal High Resolution Black  
& White Coverage Throughout The Mission On Aft Camera

# MAJOR TARGETS SUGGESTED

**Agricultural**

**Atomic Energy**



Attachment 2 to  
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# AGRICULTURAL BACKGROUND

**ORD/CIA Has Done Considerable Work Relative to Assessing Agricultural  
Output by Photography. SO-180 Very Effective**

**SO-180 Uniquely Qualified to Assess Agricultural Problem**

**CIA Proceed Apace in Seeking to develop Techniques Which Will  
Enable Estimates of Crop Yield to be Made from Satellite Photography  
USIB - D - 4114/280 ( COMOR-D-25/204)**

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# AGRICULTURE OBJECTIVES

**A. Facilitate the Monitoring of the Condition of Autumn Harvested  
Crops in the Specified Area of Communist China**

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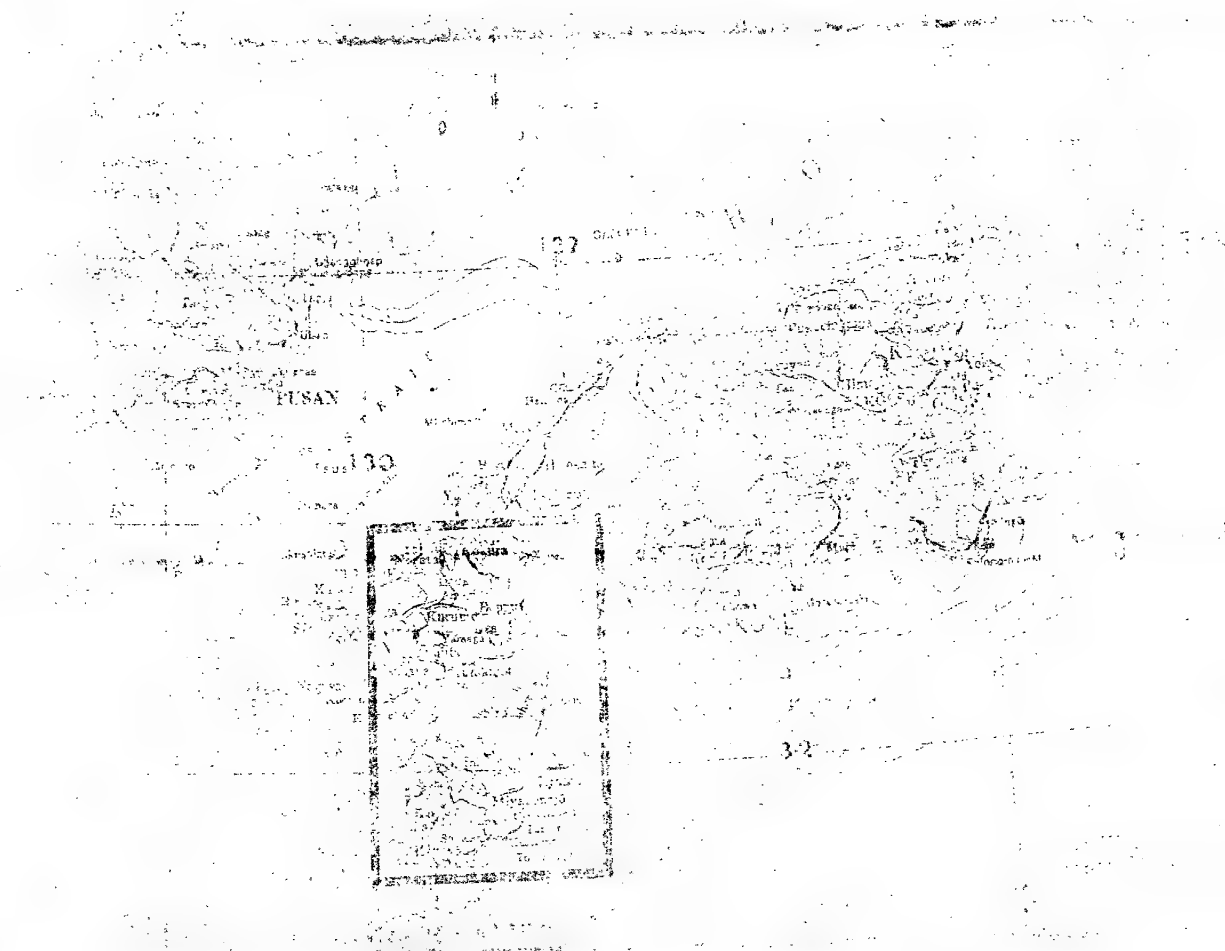
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SUBJECT \_\_\_\_\_



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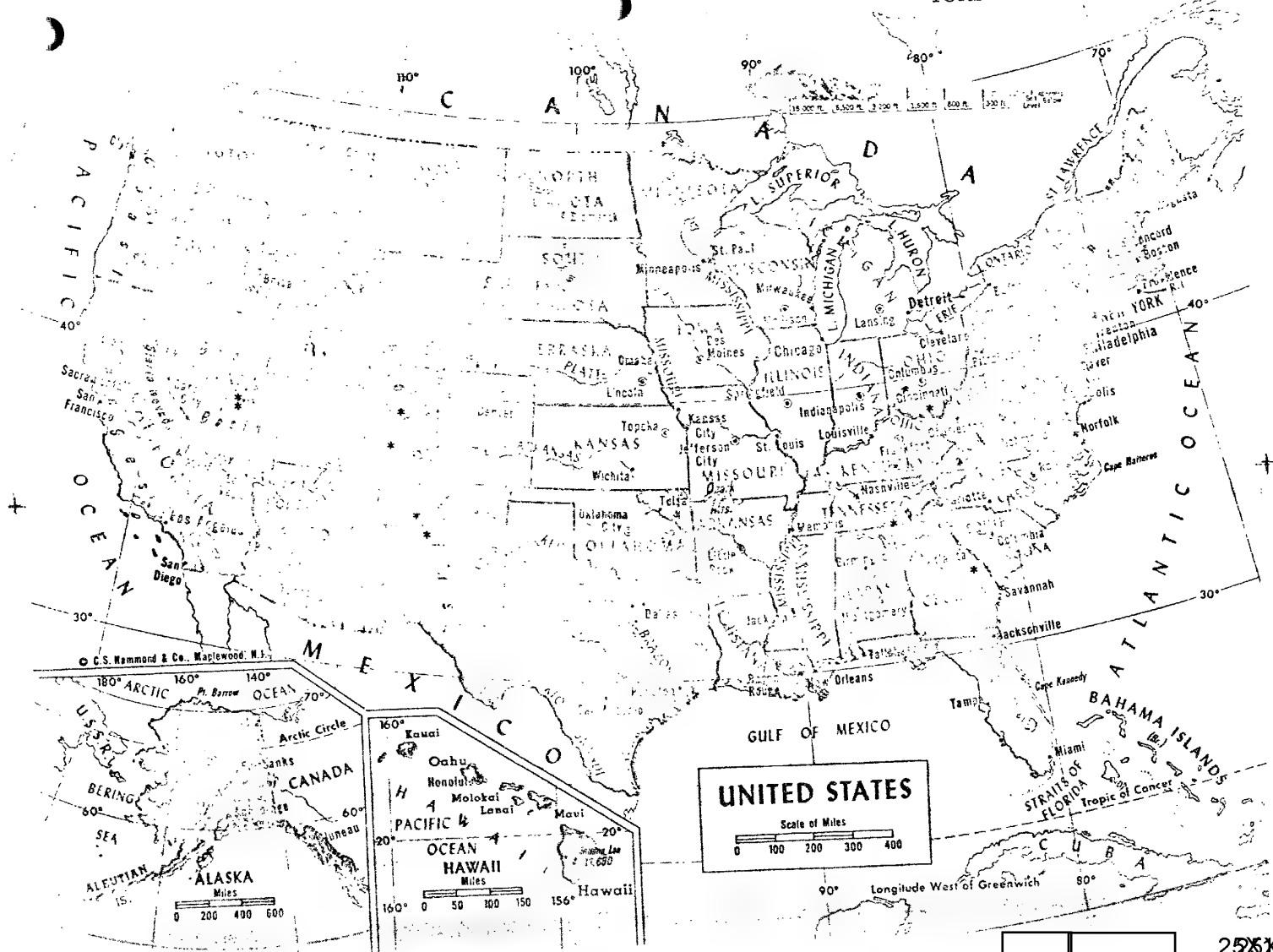
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# PROCESSING AND EXPLOITATION

## 1. Processing Site Equipped and Ready to Process SO-180

1 Day to Process Original

2 Days for First Dupe, Additional Dups at Rate of 2/8 hrs.

Black & White Dups Can Be Made From COLOR Original

## 2. CRF Has Developed Analysis Techniques for Agricultural Question, Will Participate in Analysis

## 3. Analysis Does NOT Require Any Special Equipment

# SUMMARY

1. **ENGINEERING TEST, SO-180 Recommended  
Against Operational Objectives**  
  
800 Ft. of SO-180 On Forward Camera ,  
Full Load of 3404 On Aft Camera
3. **Processing and Duplication Can Be Handled  
at EK**
4. **Exploitation and Analysis Coordinated with  
NPIC, NO Unusual Equipment Required**

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Attachment 4 to  
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Priority 4 \*

Domestic Areas:

- 1) 31 45N to 37 00N  
109 00W to 115 00W
- 2) 35 15N to 37 45N  
117 30W to 120 30W
- 3) 37 15N to 39 45N  
91 07W to 94 22W
- 4) 37 45N to 40 15N  
83 00W to 86 15W
- 5) 34 00N to 36 30N  
76 07W to 79 15W

Leopoldville, Congo

- 1) 03°30'S - 06°00'S, 11°30'E - 14°00'E

Fernando Po

- 1) 02°50'N - 04°10'N, 08° - 10°00'E

Aldabra Islands

- 1) 9° - 10°S, 46° - 47°E

Saipan, Tinian, Rota, Aguijan and Guam Islands

- 1) 13° - 14°N, 144°30'E - 145°30'E

Babelthuap, Kokor Island Area

- 1) 06°45'N - 07°50'N, 134°00'E - 134°50'E

Engebi Island Area

- 1) 11°38'30"N - 162°16'30"E

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Priority 4 (continued)

Bamako, Mali

- 1) 09°00'N - 13°30'W
- 2) 11°00'N - 10°00'W
- 3) 09°00'N - 07°30'W
- 4) 05°00'N - 06°00'W
- 5) Northwest along coast

Priority 5 \*

Domestic Areas:

- 1) 40 00N to 42 30N  
96 00W to 99 15W
- 2) 30 45N to 33 15N  
94 00W to 97 00W
- 3) 35 45N to 38 15N  
106 07W to 109 22W

Mapping and Charting, outside the USSR, China, North Korea and East European Communist Countries.

Cuba

Program for area coverage only, film to be expended only on direction of COMIREX or if there is surplus beyond that needed to cover higher ranking priorities.

\* Requirement is for coverage of one of the Priority 4 or Priority 5 Domestic Targets in 90 percent or better cloud-free photography with simultaneous pan and frame stereo coverage.

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